

**Oribatids from Switzerland V (Acari: Oribatida: Suctobelbidae 2).
(*Acarologica Genavensia* XCVII)**

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Oribatids from Switzerland V (Acari: Oribatida: Suctobelbidae 2). (*Acarologica Genavensia* XCVII). – Suctobelbid oribatids from soil samples in Switzerland have been examined. 29 species are listed, 3 of which (*Allosuctobelba hauseri* sp. n., *Suctobelba consimilis* sp. n. and *Suctobelbella besucheti* sp. n.) are new to science. 2 new combinations are presented: *Allosuctobelba centroamericana* (Woas) comb. n. = *Suctobelba centroamericana* Woas, 1986 and *Rhynchobelba ornithorhyncha* (Willmann) comb. n. = *Suctobelba ornithorhyncha* Willmann, 1953. Additional morphological characters are discussed for 8 species. A new terminology for the peculiar morphological features of the family is presented and a key to the swiss genera is given.

Key-words: Acari – Oribatida – Suctobelbidae – taxonomy – new species – new combinations – Switzerland.

INTRODUCTION

We are working on the exploration of the oribatid fauna of Switzerland. The final goal, as we have several times stated (e.g. Mahunka, 1996), is to write a monograph. However, before making the final touches, another 4-5 years will have to pass. Consequently, the publication of some interesting faunistic and zoogeographic data that crop up seems more than justified. For this purpose, we deemed it appropriate to launch this series of papers.

Lately we proposed to discuss some of the available information gained in connection with species belonging in the superfamily Oppioidea (Balogh, 1983; Subias & Balogh, 1989). In the first part of this work (Mahunka & Mahunka-Papp, 2000a) we studied and described some species belonging to the families Oppiidae and Quadropiidae, in the following (2nd and 3rd) parts we related our results in connection with taxa of Suctobelbidae. In the second we described two new genera (Mahunka & Mahunka-Papp, 2000b). In the third, present, part we discuss the recently discovered 29 Swiss suctobelbid species.

In our taxonomic works we generally followed the system of Marshall, Reeves & Norton (1987), but perhaps the biggest changes occurred in this particular super-

family, Oppioidea, following the appearance of this work, and the situation is more than problematic. We should stress that when we refer to the taxon Oppioidea then we adopt the system including, e.g. the following families: Oppiidae, Quadropiidae and Suctobelbidae (Balogh & Balogh, 1992). We cannot accept the present subfamily level, although we are aware of the fact that it may indicate definite relationships. The composition of the family Suctobelbidae has significantly changed lately, but it plays only an insignificant role in the Palearctic region. Of course, we hold the view that some changes will have to be made, and synonymizations will have to be carried out.

Data referring to this family from Switzerland were published by Schweizer (1922, 1948, 1956) and Borcard (1994). Schweizer's data bearing reference to only 5 species are uncertain. Among the species are: "*Suctobelba corniger*"[sic!], "*S. subtrigona*", "*S. trigona*", "*S. perforata*" and "*S. grandis*". "*S. trigona*" definitely belongs to the "*trigona*" species-group, as "*S. grandis*" belongs to the "*Allosuctobelba grandis*" species-group. The former could be any species belonging in that species-group, the latter in lacking the striking double rostral teeth may be identified with *Allosuctobelba hauseri* sp. n. described herein. On the basis of the drawings, "*S. subtrigona*" and "*S. perforata*" could be any of the species of the "*Suctobelbella acutidens*" species-group.

Borcard's data are reliable and acceptable and we have also found most species recorded by him, except for two: *Suctobelbella sarekensis* (Forsslund, 1941) and *S. tuberculata* (Strenzke, 1950).

The present paper deals with 29 species of Suctobelbidae Jacot, 1938 found on the territory of Switzerland. Two of them represent new genera and new species, which have been described elsewhere (Mahunka & Mahunka-Papp, 2000b). Of the remaining 27 species, 3 of them are new to science, 16 (some extremely rare) species are only briefly recorded with their locality data, whilst 8 species are discussed along with supplementary morphological details, corrections, new combinations and new diagnoses. A key to the 6 swiss genera is also given.

The family Suctobelbidae shows many peculiar morphological features found only in this group. Terminology is therefore of paramount importance when describing new taxa. Consequently, although we still use the accepted terminology (e.g. Forsslund, 1941), we here introduce a few terms (illustrated in Figs 1-2) in addition to the traditional terminology (e.g. Forsslund, 1941).

SOME MORPHOLOGICAL TERMS AND THEIR DEFINITION:

Rostral apex:

The shape of this unpaired structure is considered always in dorsal view (the terms nasiform or roundish frequently refer to frontal view).

Rostral tooth:

The first pair of teeth directly behind the rostral apex, being as a rule larger and more robust than the others.

Rostral incisure:

The pair of incisures behind the rostral teeth.

Accessory tooth:

The smaller teeth behind the rostral teeth on the lateral margin of the prodorsum; numbering starts from the rostral teeth; their shape is represented in lateral view.

Accessory incisure:

The incisures between the accessory teeth; their shape is represented in lateral view.

Rostral elevation:

A weak, often indistinct elevation medially, directly behind the rostrum, regularly bearing the rostral setae.

Rostral rib:

The ribs framing the rostral elevation.

Tectopedial field:

A window-like pair of large fields situated medially, mostly with a stronger outer and a weaker inner framing border.

Paratectopedial field:

A longitudinal, narrow pair of fields on the lateral part of the prodorsum, their inner frame is formed by the outer border of the tectopedial fields.

Lamellar knob:

As a rule, an unpaired tubercle in the middle bearing the lamellar setae. It may be divided, or may be strongly reduced.

Lateroprodorsal pattern:

The polygonate designs on both sides, above and behind the rostral teeth.

Prebothridial rib:

The pair of dentate laths in front of the bothridia.

Interbothridial field:

A pair of fields bordered by arcuate, often dentate ribs between the bothridia.

Bothridial lobe:

The fastigial thickenings on the basal margin of the bothridia on both sides.

Posterobothridial tubercle:

The independent tubercles behind the bothridia on both sides.

Exobothridial arch:

The arcuate pustulate ribs beside the outer margin of the bothridia on both sides; often separated into tubercles.

Podosomal tubercle:

The robust, mostly pustulate or granulate elevated formations, above the acetabula III and IV, at the anterior end of the discidium in dorsal view on both sides.

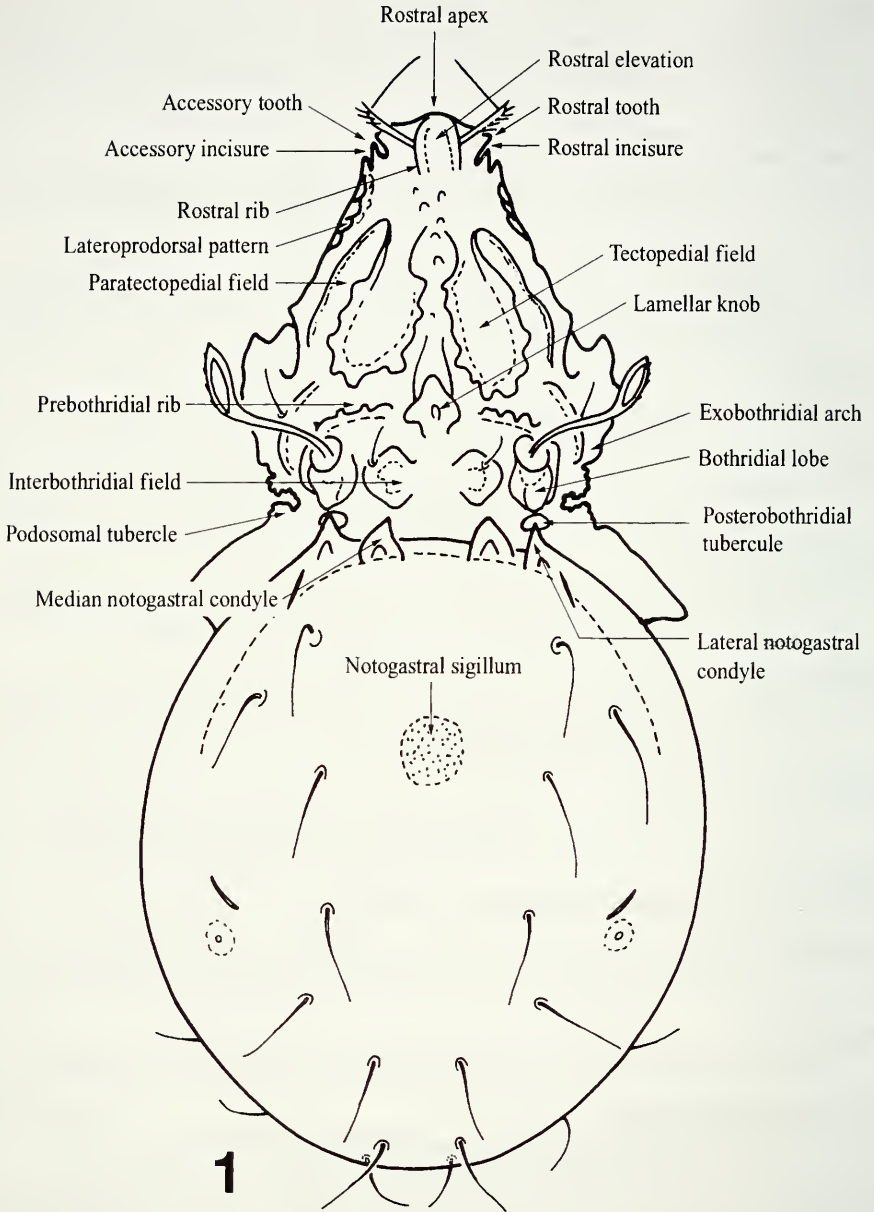


FIG. 1
A suctobelbid moss-mite - 1: body in dorsal view.

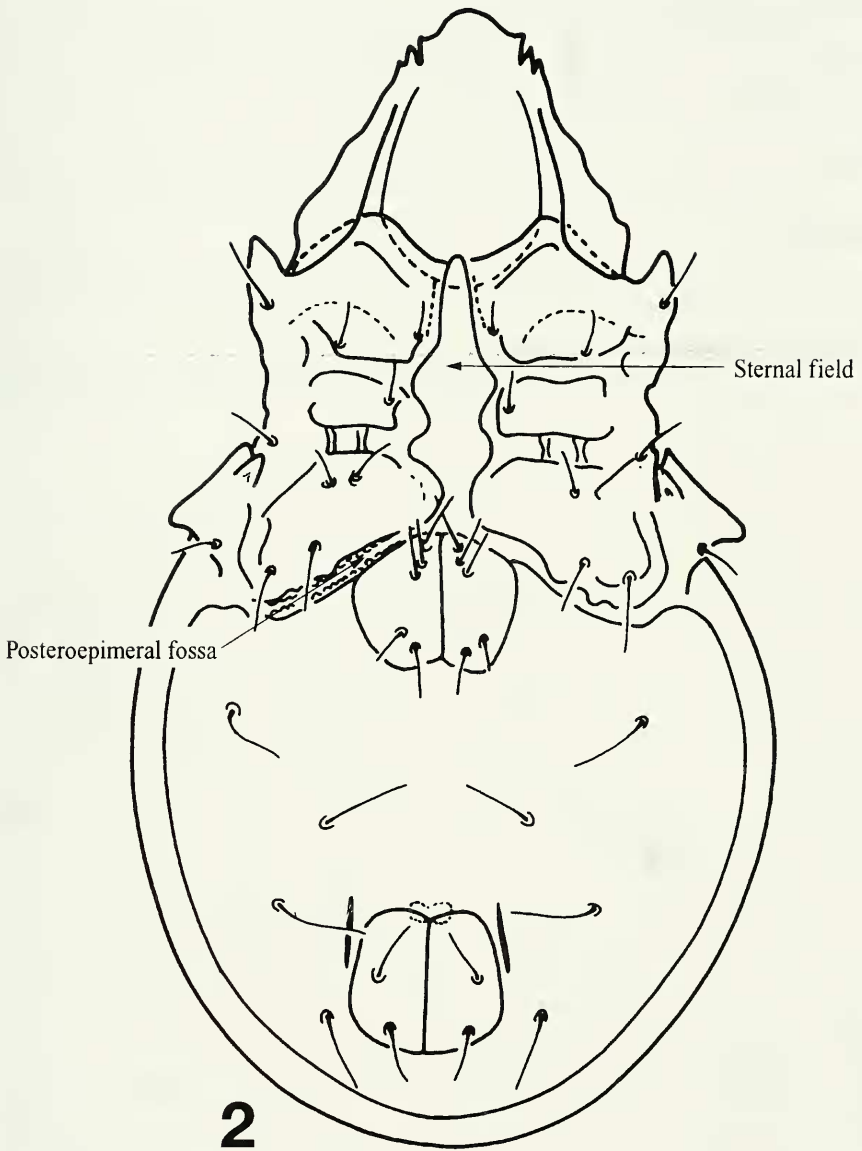


FIG. 2
A suctobelbid moss-mite - 2: body in ventral view.

Median notogastral condyle:

The inner pair of condyles on the dorsosejugal margin of the notogaster.

Lateral notogastral condyle:

The outer pair of condyles on the dorsosejugal margin of the notogaster.

Notogastral sigillum:

The roundish, porose, median light spot in the anterior half of the notogaster.

Sternal field:

The longitudinal surface of varying width between the epimeres lying somewhat deeper than the epimeres.

Posteroepimeral fossa:

A pair of channels of varying depth having a pustulate inner surface running parallel with the posterior epimeral borders.

LIST OF LOCALITIES

- AP-1 = SWITZERLAND: **Appenzell:** Hoher Kasten, sifting, 1600-1700m; 8.VIII.1982; leg. C. Besuchet — (86).
- BE-3 = SWITZERLAND: **Berne:** Büren an der Aare, Häftli Nature Reserve, dry leaves; 27.IX.1987; leg. S. Mahunka & L. Mahunka-Papp — (137).
- BL-1 = SWITZERLAND: **Basle-Land:** "Reinacher-Heide" near Reinach, Nature Reserve, xerothermic meadows, sifting, 600-700m; 12.X.1989; leg. C. Besuchet — (85).
- GE-5 = SWITZERLAND: **Geneva:** Malval, mosses and herbs; 22.X.1982; leg. C. Besuchet — (31).
- GE-6 = SWITZERLAND: **Geneva:** Malval, mosses and lichens; 22.X.1982; leg. C. Besuchet — (34).
- GL-2 = SWITZERLAND: **Glarus:** Hinterschwändi, peat-bog with *Sphagnum* sp., 1250m; 6.X.1994; leg. C. Besuchet — (87).
- GL-3 = SWITZERLAND: **Glarus:** Klöntal above Riedern, rotten tree-stumps, 700m; 30.VIII.1980; leg. C. Besuchet — (1).
- GL-4 = SWITZERLAND: **Glarus:** Klöntal, Richisau, hollow maple (*Acer* sp.), 1100m; 20.V.1993; leg. C. Besuchet — (84).
- GR-1 = SWITZERLAND: **the Grisons:** Gafia St. Antönien, mosses and grass roots; 20.IX.1983; leg. C. Besuchet — (51).
- GR-8 = SWITZERLAND: **the Grisons:** Samnaun, alpine meadows with *Rhododendron* sp., sifting, 2050m; 26.VIII.1968; leg. C. Besuchet — (26).
- GR-9 = SWITZERLAND: **the Grisons:** Santa Maria – Umbrail pass, sifting, 2000m; 5.VIII.1974; leg. C. Besuchet — (37).
- GR-10 = SWITZERLAND: **the Grisons:** Trin-Flims, very wet mosses; 20.VIII.1999; leg. C. Besuchet — (139).
- LU-1 = SWITZERLAND: **Lucerne:** Eigenthal, peat-bog Forenmoos near the village Eigenthal, *Sphagnum* sp., 970m; 2.VIII.1996; leg. C. Besuchet — (108).
- NW-1 = SWITZERLAND: **Nidwalden:** Musenalp, above Niederrickenbach, mosses in karren (= solution rills) on limestone, 1800m; leg. C. Besuchet — (113).
- NW-2 = SWITZERLAND: **Nidwalden:** Pilatus, sifting of *Rhododendron* sp., 1800m; 14.VI.1984; leg. I. Löbl — (123).
- SG-4 = SWITZERLAND: **St. Gall:** Quinten, dead leaves; 17.VIII.1999; leg. C. Besuchet — (138).

- SO-6 = SWITZERLAND: **Solothurn**: Schottwil, Bucheggberg, litter in pine wood; 27.IX.1987; leg. S. Mahunka & L. Mahunka-Papp — (48).
- TG-3 = SWITZERLAND: **Thurgau**: Hudelmoos near Hagenwil, peat-bog with *Sphagnum* sp., 600m; 13.IX.1993; leg. C. Besuchet — (88).
- TG-7 = SWITZERLAND: **Thurgau**: Müllheim, dry leaves in mixed forest ; 13.IX.1987; leg. S. Mahunka & L. Mahunka-Papp — (42).
- TG-8 = SWITZERLAND: **Thurgau**: Müllheim; rotten trunk with mosses; 13.IX.1987, leg. S. Mahunka & L. Mahunka-Papp — (43).
- TG-9 = SWITZERLAND: **Thurgau**: between Bischofszell and Hauptwil, moss on forest floor with ferns; 11.VI.1983; leg. T. & Z. Adamis — (21).
- TG-10 = SWITZERLAND: **Thurgau**: between Bischofszell and Hauptwil, moss on forest floor and leaf litter in pine forest; 11.VI.1983; leg. T. & Z. Adamis — (22).
- TI-3 = SWITZERLAND: **Ticino**: Bordei at foot of Monte Gridone ("massif de refuge"), sifting of old stumps of chestnut-trees in forest, 700m; 24.IV.1992; leg. C. Besuchet — (90).
- TI-5 = SWITZERLAND: **Ticino**: Monadello - Moneto, in decaying leaves, 850m; 23.IV.1992; leg. C. Besuchet — (91).
- TI-9 = SWITZERLAND: **Ticino**: Nufenen pass, leaf litter and rotten wood in larch forest; 15.VI.1979; leg. S. Mahunka & L. Mahunka-Papp — (18).
- TI-10 = SWITZERLAND: **Ticino**: Orselina near Locarno, leaf litter in ravine; 29.VII.1972; leg. C. Besuchet — (24).
- TI-11 = SWITZERLAND: **Ticino**: Rancate, sifting in chestnut forest; 7.IX.1965; leg. C. Besuchet — (25).
- UR-1 = SWITZERLAND: **Uri**: Klausen pass, litter of *Rhododendron* sp., 2000m; 23.VIII.1983; leg. I. Löbl — (60).
- VD-7 = SWITZERLAND: **Vaud**: Le Séchey, Lac Ter, sifting under willows (*Salix* sp.), 1017m; 21.VI.1989; leg. C. Besuchet — (82).
- VD-9 = SWITZERLAND: **Vaud**: Vallorbe, source of the river Orbe, roots and soil, at foot of rock face; 13.V.1982; leg. C. Besuchet & I. Löbl — (81).
- VS-3 = SWITZERLAND: **Valais**: Daubensee, mosses and herbs, 2200m; 11.VIII.1980; leg. C. Besuchet — (4).
- VS-4 = SWITZERLAND: **Valais**: Daubensee, mosses and herbs, 2200m; 11.VIII.1980; leg. C. Besuchet — (32).
- VS-5 = SWITZERLAND: **Valais**: Fluhalp near Leukerbad, mosses and dead leaves, 2000m; 14.VIII.1980; leg. C. Besuchet — (2).
- VS-8 = SWITZERLAND: **Valais**: Finges forest, wrotten pine stumps (*Pinus* sp.); 14.VIII.1980; leg. C. Besuchet — (5).
- VS-12 = SWITZERLAND: **Valais**: Grand-Saint-Bernard, mosses on and at foot of rock face, 2150m; 10.IX.1996; leg. C. Besuchet — (109).
- VS-19 = SWITZERLAND: **Valais**: Praz-de-Fort, mosses and dead leaves, 1200m; 16.VIII.1989; leg. C. Besuchet — (80).
- VS-20 = SWITZERLAND: **Valais**: Praz-de-Fort, mosses in swamp, 1200m; 26.VIII.1989; leg. C. Besuchet — (95).
- VS-25 = SWITZERLAND: **Valais**: Vercorin, moss cover on the ground; 30.V.1989; leg. H. Borrer — (83).

LIST OF DETERMINED SPECIES

Suctobelbidae Jacot, 1938

- Allosuctobelba grandis* (Paoli, 1908)
Localities: GL-4; SG-4; TG-7; TI-5.
Distribution¹: Holarctic Region.
- Allosuctobelba hauseri* sp. n.
Localities: GL-3; VS-20.
- Helvetobelba dichotoma* Mahunka & Mahunka-Papp, 2000
Localities: SG-4; TI-11.
Distribution: Switzerland.
- Rhynchobelba ornithorhyncha* (Willmann, 1953)
Locality: GL-3.
Distribution: Austria (hithero known from the type locality only); first record for Switzerland.
- Suctobelba altvateri* Moritz, 1970
Locality: VS-5.
Distribution: Europe.
- Suctobelba atomaria* Moritz, 1970
Localities: BL-1; GR-9; GR-10; VS-3; VS-8.
Distribution: Europe; first record for Switzerland.
- Suctobelba consimilis* sp.n.
Locality: TI-11.
- Suctobelba granulata* Hammer, 1952
Locality: TI-11.
Distribution: Europe, Caucasus; first record for Switzerland.
- Suctobelba regia* Moritz, 1970
Localities: GR-10; SG-4; TI-5; TI-11.
Distribution: Central Europe; first record for Switzerland.
- Suctobelba reticulata* Moritz, 1970
Localities: GR-10; TI-5.
Distribution: Europe; first record for Switzerland.
- Suctobelba sorrentensis* Hammer, 1961
Locality: VS-12.
Distribution: Europe.
- Suctobelba trigona* (Michael, 1888)
Localities: AP-1; GL-2; GR-1; GR-12; SO-6; TG-8; TG-10; TI-9; VS-4; VS-12.
Distribution: Europe, Crimea.
- Suctobelbella acutidens* (Forslund, 1941)
Localities: GR-12; SG-4; VD-7; VD-9; VS-12; VS-19.
Distribution: Holarctic Region.
- Suctobelbella alloenasuta* Moritz, 1971
Localities: BE-3; GE-5; NW-1; SG-4; TG-10; TI-9; TI-11; VD-9; VS-5; VS-19.
Distribution: Europe; first record for Switzerland.
- Suctobelbella arcana* Moritz, 1970
Localities: AP-1; GR-10; SG-4; TI-3; TI-9.
Distribution: Europe.
- Suctobelbella baloghi* (Forslund, 1958)
Localities: GR-10; SG-4; TI-11; VS-19.
Distribution: Europe; first record for Switzerland.

¹ All distributional indications are for a preliminary orientation only.

- Suctobelbella besucheti* sp. n.
Localities: GR-10; SG-4; VS-19.
- Suctobelbella duplex* (Strenzke, 1950)
Locality: TI-5.
Distribution: Europe, Caucasus; first record for Switzerland.
- Suctobelbella falcata* (Forsslund, 1941)
Localities: LU-1; TG-3; TG-9; TI-3; TI-9.
Distribution: Europe.
- Suctobelbella forsslundi* (Strenzke, 1950)
Localities: GR-10; SG-4; TI-10; TI-11; VD-7; VD-9; VS-19.
Distribution: Palaearctic Region.
- Suctobelbella longirostris* (Forsslund, 1941)
Locality: TG-3.
Distribution: Europe.
- Suctobelbella nasalis* (Forsslund, 1941)
Localities: BE-3; VD-9.
Distribution: Palaearctic Region; first record for Switzerland.
- Suctobelbella palustris* (Forsslund, 1953)
Locality: GR-10.
Distribution: Holarctic Region.
- Suctobelbella paracutidens* Mahunka, 1983
Localities: GR-8; T-11.
Distribution: Europe; first record for Switzerland.
- Suctobelbella perforata* (Strenzke, 1950)
Localities: GR-12; VD-7; VS-25.
Distribution: Europe, Caucasus.
- Suctobelbella similis* (Forsslund, 1941)
Localities: AP-1; GR-9; NW-2; TI-5; TI-9; UR-1; VS-4.
Distribution: Europe.
- Suctobelbella subcornigera* (Forsslund, 1941)
Localities: BE-3; GE-5; GE-6; GL-4; GR-10; LU-1; SO-4; SO-6; TG-3; TG-8;
TI-11; VD-9; VS-4; VS-19; VS-25.
Distribution: Holarctic Region.
- Suctobelbella subtrigona* (Oudemans, 1916)
Localities: AP-1; BL-1; GR-10; SO-4; SO-6; TG-7; VS-4.
Distribution: Palaearctic Region.
- Unicobelba ypsilon signata* Mahunka & Mahunka-Papp, 2000
Locality: TI-5.
Distribution: Switzerland.

KEY TO THE SWISS GENERA OF SUCTOBELBIDAE:

- 1 (4) Anterior margin of notogaster with condyles (teeth) or median unpaired elevation
- 2 (3) Anterior margin of notogaster with two pairs – sometimes connected – condyles (teeth). Lateral margin of prodorsum with accessory teeth and incisures *Suctobelbella*
- 3 (2) Anterior margin of notogaster with one pair of lateral condyles and an unpaired median elevation *Unicobelba*
- 4 (1) Anterior margin of notogaster without condyles (teeth) or median unpaired elevation. Its margin gradually bent medially, smooth

- 5 (6) Lamellar knob undivided, lamellar setae arising on its lateral sides. Accessory teeth, incisions or lateral tubercles on the margin of prodorsum absent. 5 pairs of genital, 9 pairs of notogastral setae present
 *Suctobelba*
- 6 (5) Lamellar knob divided in two separate parts. Lateral part of prodorsum either smooth or divided (ornamented) by accessory teeth and incisions or lateral tubercles. 6 pairs of genital setae and 10 pairs of notogastral setae present.
- 7 (8) Anterolateral part of prodorsum without rostral teeth, smooth, gradually narrowed anteriorly. With some greater rounded tubercles *Rhynchobelba*
- 8 (7) Anterolateral part of prodorsum with rostral and accessory teeth
- 9 (10) Anterolateral part of prodorsum smooth, only one pair of large rostral teeth, without incisure present. Accessory teeth or incisures absent
 *Helvetobelba*
- 10 (9) Anterolateral part of prodorsum divided by teeth and incisions . *Allosuctobelba*

DESCRIPTION AND REDESCRIPTION OF SOME OF THE SUCTOBELBID SPECIES

The genus *Allosuctobelba* Moritz, 1970

Allosuctobelba Moritz, 1970a: 137.

INTRODUCTION:

The genus *Allosuctobelba* was established by Moritz (1970a), who designated *Suctobelba grandis* Paoli, 1908 as the type species. He included also in this genus *Suctobelba ornithorhyncha* Willmann, 1953. According to our opinion the latter species does not belong here, but without doubt *Suctobelba grandis europaea* Willmann, 1933, *Suctobelba gigantea* Hammer, 1955, *A. nova* (Krivolutsky, 1971) (see also Mahunka, 1979), *A. bicuspidata* Aoki, 1984, *A. tricuspadata* Aoki, 1984, *Suctobelba centroamericana* Woas, 1986 (= *Allosuctobelba centroamericana* (Woas, 1986) comb. n.), *A. tricuspadata tokara* Aoki, 1987 *A. bidentata* Zai-Gen, 1993, *A. haungshanensis* Zai-Gen, 1993 and *A. menglunensis* Wen, 1997 belong here. According to various authors and the placing of several similar species as *Allosuctobelba simplex* Fujikawa, 1972, *Rhinusuctobelba makarcevi* Golosova & Krivolutsky, 1974 and *Rhynchobelba machadoi* Pérez-Íñigo, 1976 is uncertain. We believe that for the time being the species *Suctobelba ornithorhyncha* Willmann, 1953 should be placed in *Rhynchobelba*, since there is neither a rostral tooth nor an incisure in the rostral region, which we consider as generic features.

The type species was described by Paoli (1908) on the basis of North-American specimens (Columbia, USA). Moritz briefly mentioned the species and Woas (1986) redescribed it on the basis of specimens collected in Germany. The occurrence of the species has been reported by several authors (e.g. Forsslund, 1941; Schweizer, 1956).

Woas (1986: 80) questioned the validity of the genus but, on the other hand, he accepted the existence of a species group (p. 88). He did not discuss the position of the species group, or the other genera related to it, although Pérez-Íñigo (1976) pointed out that it is highly probable that the two genera *Rhynchobelba* Willmann, 1953 and *Allosuctobelba* are identical. No solution is offered by the fact that simultaneously Woolley & Higgins (1969) and Higgins & Woolley (1976) also described related genera: *Rhinosuctobelba* Woolley & Higgins, 1969 and *Parisuctobelba* Higgins & Woolley, 1976. The problem is further aggravated by the description of *Rhynchobelba* by Willmann (1953). This article gives the description of *Suctobelba ornithorhyncha* which, in our opinion, is much closer to the genus *Rhynchobelba*, than to the other suctobelbid genera.

On the other hand, it is rather difficult to accept that Willmann would not have seen some kind of relationship between the type species of his genus and the newly described species, if there were any. The same holds for Higgins & Woolley (1976) who simultaneously described *Parisuctobelba* and *Suctobelba tumulata*, which again suggests that the latter species rather belongs to *Parisuctobelba* relatives, so might need to be relegated in the genera of *Rhinosuctobelba* or *Allosuctobelba*, and not to *Suctobelba*.

Consequently, it became necessary to examine the interrelationships of the genera *Rhynchobelba* Willmann, 1953, *Rhinosuctobelba* Woolley & Higgins, 1969, *Allosuctobelba* Moritz, 1970 and *Parisuctobelba* Higgins & Woolley 1976 by studying the types. Unfortunately, we were unable to examine the type of *Rhynchobelba* although, through the kind help of Drs D. Summers and P. P. Parillo (The Field Museum, Chicago), we had access to the type material of *Parisuctobelba* and *Rhinosuctobelba*. Furthermore, Dr. R. A. Norton kindly made an undescribed *Rhinosuctobelba* species from his own collection available for our study. Unfortunately, the types of the genera *Parisuctobelba* and *Rhinosuctobelba* mounted on slides, were in such a bad condition, that they were wholly unsuitable for a thorough examination. Nevertheless, we were able to ascertain that on the bases of the rostrum, the shape of rostral and accessory teeth and incisures of *Parisuctobelba*, this type should be placed into the genus *Allosuctobelba*. The genital plate could not be examined. In the other genus, *Rhinosuctobelba*, the rostrum shows no incisures. However, laterally, a robust, sharply pointed tubercle is present on both sides, which may be taken for a rostral tooth. Consequently, it belongs in the genus *Rhynchobelba*.

The "*Rhinosuctobelba*" species from the Norton-Collection has a strongly elongate rostrum (more strongly so than in *Parisuctobelba*), a robust rostral tooth and accessory teeth and can be differentiated from *Allosuctobelba* only by the shape of the rostrum.

Thus our opinion regarding this group is: the genera of this group, apart some definitely questionable genera (e.g. *Novosuctobelba* Hammer, 1977, *Flagrosuctobelba* Hammer, 1979), certainly from such a clade lineage, which widely differs from that of the *Suctobelba-Suctobelbella* relationship, or from other suctobelbids, specifically those described from tropical regions. Consequently, one or more genera should be retained. Still the question remains what is the degree of relationship among these

genera? Unfortunately, the type species of the key genus (*Rhynchobelba*) in this group cannot be studied. We cannot accept nor do Pérez-Íñigo (1976) and Moritz (1970a), its identity with *Allosuctobelba*. The subsequent generic diagnosis gives a basis for the relegation of species (see above) in the genus *Allosuctobelba* while we relegate *S. ornithorchyncha* to the genus *Rhynchobelba* Willmann, 1953, as a new combination. The type species of the genera described by Higgins & Woolley and Woolley & Higgins and the specimens of an undescribed American (USA) *Rhynchobelba* species were investigated by us. On the basis of the seven pairs of genital setae, the genus *Parisuctobelba* remains valid. However, the genus *Rhinosuctobelba* differs from *Allosuctobelba* only by its strongly elongated rostral apex. Thus, the validity of *Rhinosuctobelba* is rather questionable.

DIAGNOSIS:

Suctobelbid habitus, large bodied species. Rostral part convex or slightly elongated, with at least a pair of large rostral teeth and an incisure. Tectopedial fields weakly developed, their median margin indistinct or partly absent. Lamellar knob divided, consisting of two or more large separated tubercles. Prodorsal surface granulate, its basal part covered by large pustules. Rostral setae setiform, simple, curved. Sensillus setiform, bacilliform or spindle-shaped. Dorsosejugal region gradually convex or straight, slightly elongate, without condyles. Ten pairs of notogastral setae. Anogenital setal formula 6 - 1 - 2 - 3. Lyrifissures *iad* in normal paraanal position. Femora and tarsi of all legs only slightly dilated both basally and distally.

REMARKS:

The recently studied Swiss material yielded specimens from several localities identifiable, without doubt, with the genus *Allosuctobelba*. We have found the form that is unequivocally identical with the form redescribed by Woas. A second species of *Allosuctobelba* was also discovered, which shows several features widely differing from those known so far. Furthermore, we have also found Willmann's species *S. ornithorchyncha*.

We had no opportunity to study the type of Paoli (1908), nor the type of *S. grandis europaea* described by Willmann (1953). But we may safely state that the subsequently described form is not identical with any of the above two forms. However, there is a problem with one of Paoli's figures (Fig. 32): the shape of the sensillus is not really broadening, but the shape of the rostrum is identical with one species found by Woas (1986) and by us.

Allosuctobelba grandis (Paoli, 1908)

Fig. 11

Suctobelba grandis Paoli, 1908: 78, Tav. IV: 32.
Allosuctobelba grandis: Moritz, 1970a: 137.
Suctobelba grandis: Woas 1986: 91, Abb. 39-40.

Material examined: Switzerland: TG-7.

Remarks: The two robust teeth in Paoli's figure may readily be identified on both sides, which is also supported by Woas (1986), who stated that the sensillus is

"spindelförmig" (= spindle-shaped). The specimens from Switzerland clearly demonstrate these features (Fig. 11). It might well be that Woas made a mistake in stating the number of genital setae (5 pairs), since the recently studied specimens show 6 pairs, as do the specimens from Hungary.

The difference between the new species and *A. grandis* are given in the remarks following the description of the new species.

Allosuctobelba hauseri sp. n.

Figs 3-10

Material examined: Switzerland: Holotype: Glarus: GL-3; 2 paratypes: from the same sample; 1 paratype: Valais: VS-20. Holotype and 2 paratypes: MHNG², 1 paratype (1643-PO-99): HNHM³.

Diagnosis: Rostrum with four teeth. Rostral setae arising near to each other. Sensillus setiform, unilaterally ciliate. Dorsosejugal margin medially straight. Notogastral setae simple. Anogenital setal formula: 6 - 1 - 2 - 3. Lyrifissures *iad* in normal, paraanal position. Setae *p* on tarsi II-IV spiniform.

Measurements: Length of body: 424-496 µm, width of body: 226-294 µm.

Prodorsum: Rostral region distinctly divided by narrow incisions (Fig. 4) and with four teeth, median rostral apex rounded. Lateral teeth sharply pointed, anterior ones larger than the others. Behind rostrum a rostral elevation is present bearing simple curved rostral setae arising close to each other and being bent inwards. Shape of tectopedial fields typical, their inner margin also distinct. Between them an indistinct lamellar knob present, consisting of some larger tubercles, the posterior ones bearing the long lamellar setae. Interbothridial fields weakly developed, costuliform, from them a line running to the lamellar knob. Bothridia large, well sclerotised, with relatively small, rounded bothridial lobes. Sensillus long (Fig. 8), setiform, without median or distal widening, unilaterally ciliate. Interlamellar and exobothridial setae simple and relatively short.

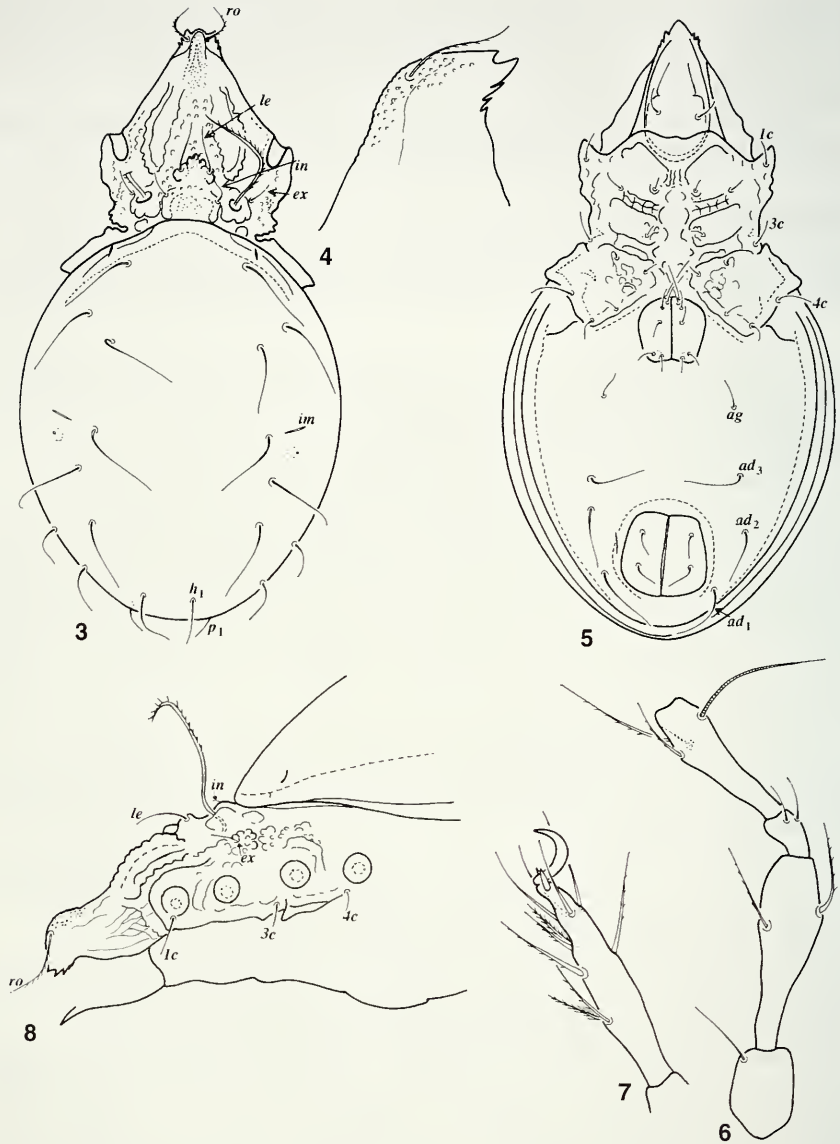
Notogaster: Comparatively large, dorsosejugal margin straight medially, without condyles. Ten pairs of notogastral setae present, all long and simple, setae *p* of the same size, but slightly shorter than the preceding ones (Fig. 3).

Lateral part of podosoma: Acetabula I-IV normal, lying on the same level (Fig. 8). Exobothridial and acetabular region well sclerotised, partly granulated. Pedotecta I normal in size, pedotecta II-III reduced, discidium with tubercles.

Ventral parts: Median part of the mental tectum protruding anteriorly. Epimeral borders and apodemes normally developed, a wide sternal field present medially between the epimeral plates. Epimeres IV normal in shape, with slightly undulate posterior borders (Fig. 5). Epimeral setal formula: 3 - 1 - 3 - 3. Setae *1c* located laterally, on the surface of pedotecta I. Setae *4c* arising on basal part of discidium. Epimeral setae of normal size, apparently smooth. Setae *4a* and *4b* located conspi-

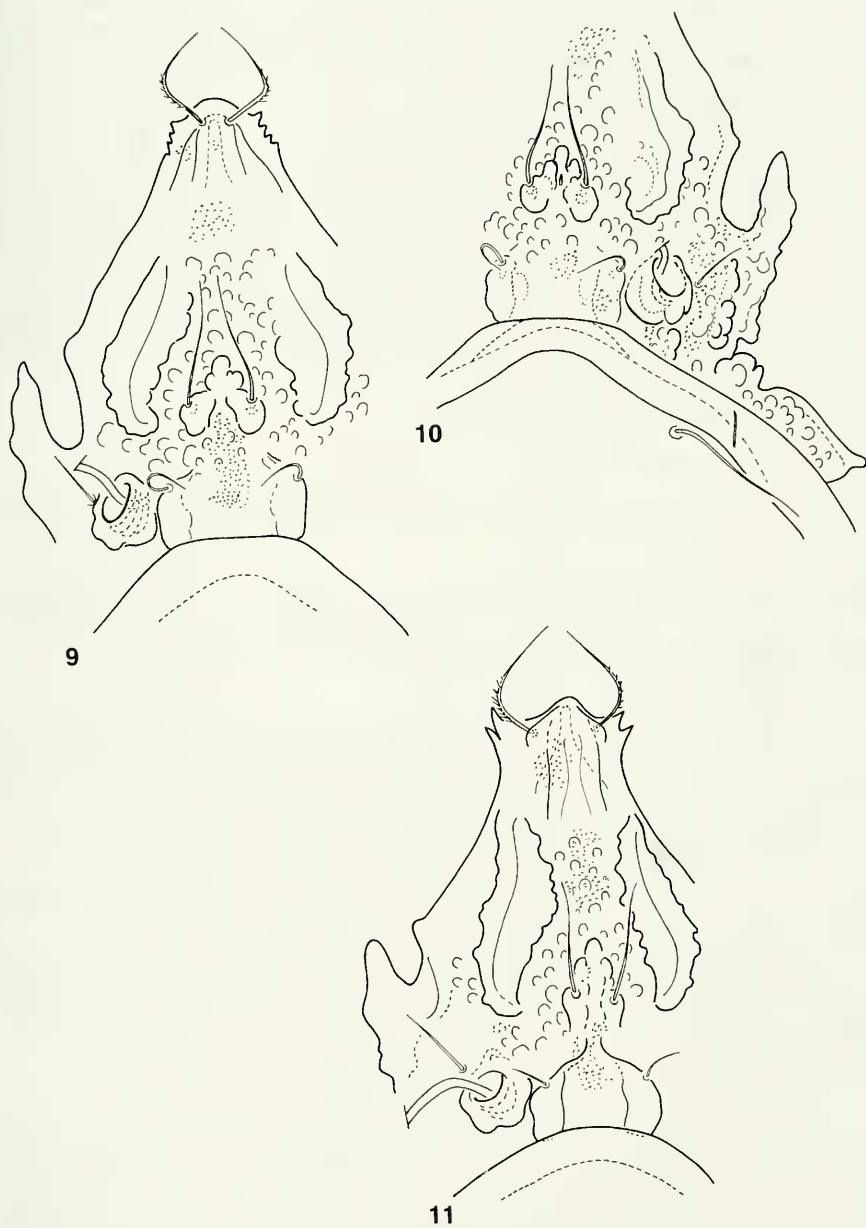
² MHNG: deposited in the Muséum d'histoire naturelle, Geneva.

³ HNHM: deposited in the Hungarian Natural History Museum, Budapest, with identification number of the specimens in the Collection of Arachnida.



FIGS 3-8

Allosuctobelba hauseri sp. n. — 3: body in dorsal view, 4: rostrum, 5: body in ventral view, 6: trochanter, femur, genu, tibia of leg IV, 7: tarsus of leg IV, 8: podosoma in lateral view.



FIGS 9-11

Allosuctobelba hauseri sp. n. - 9: prodorsum in dorsal view, 10: basal part of prodorsum.
Allosuctobelba grandis (Paoli, 1908) - 11: Prodorsum in dorsal view.

cuously near to each other. Anogenital setal formula: 6 – 1 – 2 – 3. Anterior two pairs of genital setae much longer than the others. Position of aggenital setae normal, setae ad_1 in paraanal, setae ad_3 in postanal position. All setae in this region mostly smooth. Lyrifissures *iad* located in paraanal position.

Legs: Form and chaetotaxy of legs I and IV (Figs 6-7) typical for the family, setae *p* on tarsi II-IV spiniform.

Remarks: The new species is readily distinguishable from the other *Allosuctobelba* species, discussed above, by the simple setiform sensillus and by the form of its lamellar knob, which consists of large tubercles. Number and form of rostral teeth are also different; they are never elevated laterally.

Derivatio nominis: We dedicate the new species to our friend Dr. B. Hauser for his innovative efforts for the Oribatida Helvetica project.

The genus *Rhynchobelba* Willmann, 1953

Rhynchobelba Willmann, 1953: 501.

For the reasons pointed out in the previous chapter I cannot enter in a general discussion on this genus.

Rhynchobelba ornithorhyncha (Willmann, 1953) comb. n.

Figs 12-17

Suctobelba ornithorhyncha Willmann, 1953: 500, Abb. 39a-b.

Allosuctobelba ornithorhyncha: Moritz 1970a: 137.

Material examined: GL-3.

The Swiss specimens studied are readily identifiable with the description and figures of Willmann. Unfortunately, Willmann did not discuss the ventral side and the legs. Consequently, some complementary remarks and figures are given here.

Measurements: Length of body: 436-488 μm , width of body: 252-286 μm .

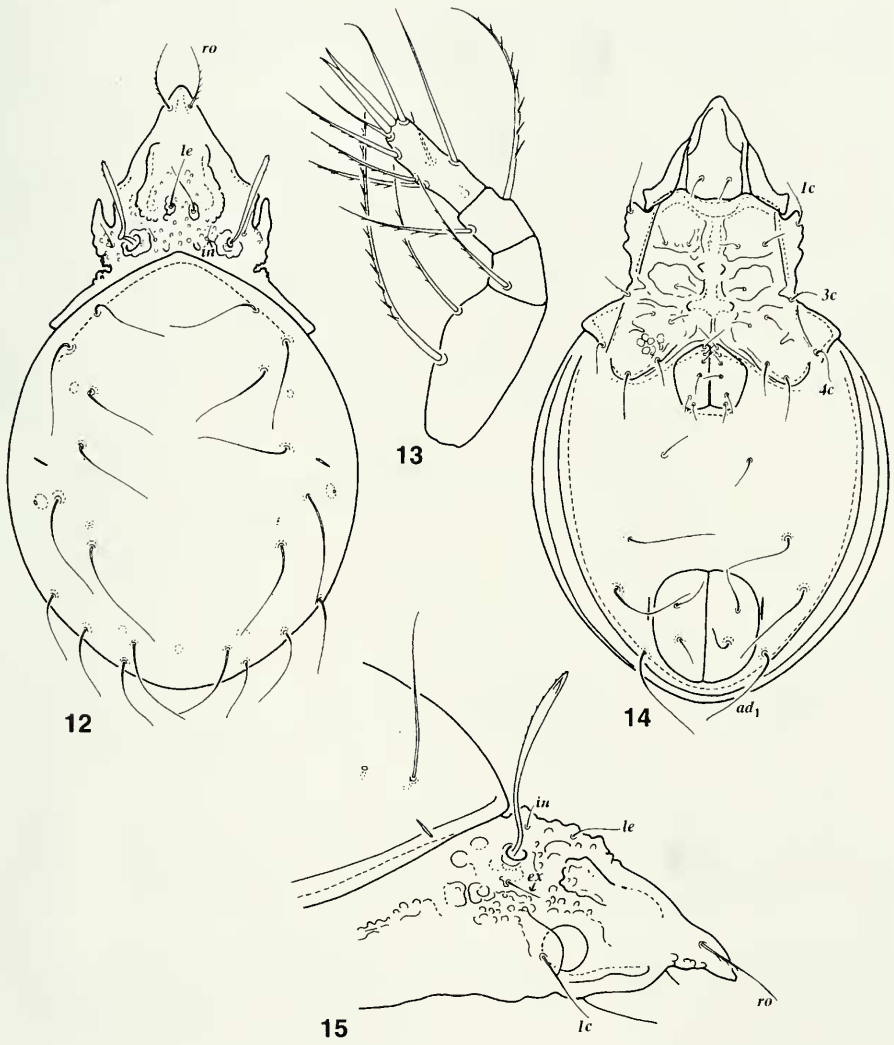
Prodorsum: Rostrum conical, lateral part of rostrum without teeth or "Vorsprünge" (= processes), but 2-3 rounded tubercles present (readily visible in lateral view: Fig. 12). Lamellar setae longer than shown in Willmann (1953).

Ventral parts: Mental tectum covered laterally by the lateral part of prodorsum (Fig. 14). Epimeral part framed by longitudinal ribs. Posterior border of epimeral plates not undulate or serrate. Anogenital setal formula: 6 - 1 - 2 - 3. Setae ad_1 in paraanal position, as are lyrifissures *iad*.

Palp and legs I-II: as shown in Figs 13, 16-17.

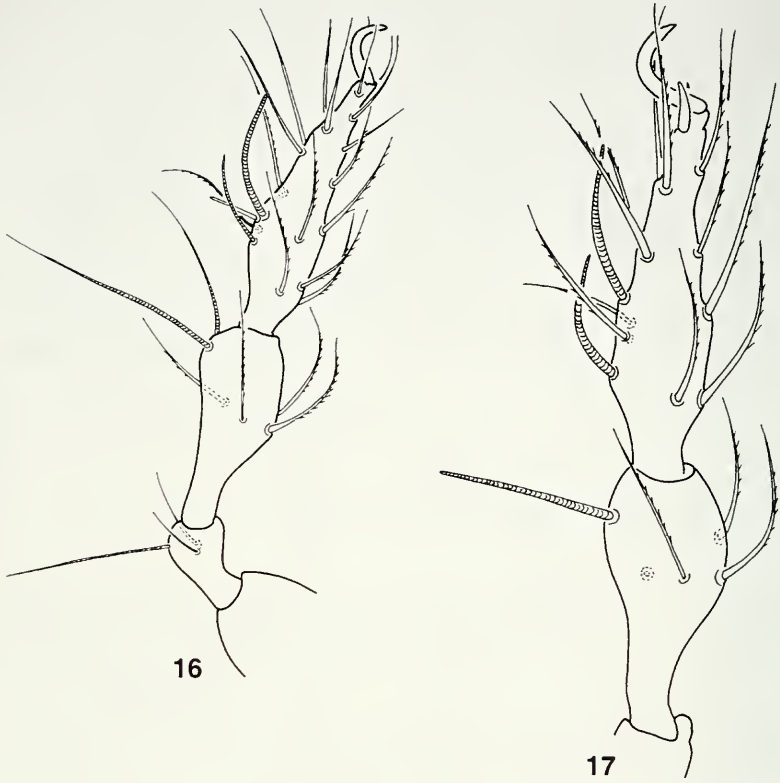
Remarks: The species was allocated to the genus *Suctobelba* Paoli, 1908 by Willmann (1953). Moritz (1970a) removed it and placed it in the genus *Allosuctobelba*, quite unaware of the work of Woolley & Higgins (1969), in which the genus *Rhinosuctobelba* was described. The relegation of this species is still equivocal but we refrain from synonymizing the genus *Allosuctobelba* without a thorough study of the types.

After comparing the species *ornithorhyncha*, now belonging in the genus *Rhynchobelba*, with the species of *Allosuctobelba*, we conclude that they differ in the presence or absence (as in *Rhynchobelba*) of rostral teeth and incisures. The structure



FIGS 12-15

Rhynchobelba ornithorhyncha (Willmann, 1953) - 12: body in dorsal view, 13: palp, 14: body in ventral view, 15: podosoma in lateral view.



Figs 16-17

Rhynchobelba ornithorhyncha (Willmann, 1953) - 16: leg I, 17: tarsus and tibia of leg II.

of the epimeral region is also different: in *ornithorhyncha* they are straight, with strikingly long inner ribs present beside the pedotecta I and discidium, while in *grandis* (also in *hauseri*) they are much shorter and undeveloped. Unfortunately, there is no drawing or description of the ventral side of the type species of *Rhynchobelba inexpectata* Willmann, 1953.

The genus *Suctobelba* Paoli, 1908

Suctobelba Paoli, 1908: 73.

In contradiction with Woas (1986: 99), we are not convinced that the species group of "*Suctobelba trigona*". in other words, the genus of *Suctobelba* Paoli, 1908, should be synonymized with the other Suctobelbidae genera, or that the species *S. trigona* (Michael, 1888) and its allies should be synonymized. The study of the Swiss material strongly suggests that all the species in the genus *Suctobelba* Paoli, 1908

(sensu Jacot, 1937 and Moritz, 1970a) are distinct. Moritz's generic diagnosis is acceptable with some complementation and corrections regarding the dorsal characteristics. However, the features of the ventral side are wholly lacking. These are supplemented, in the following.

Diagnosis: Rostrum wide, its apex rounded or straight in dorsal view. Rostral teeth large, well separated by the rostral incisure, accessory teeth missing. Rostral setae setiform, simple, directed outwards. Tectopedial fields well developed, clearly framed. Lamellar knob undivided, prebothridial ribs absent. Notogaster without condyles. Ten pairs of notogastral setae present. Anogenital setal formula: 5 - 1 - 2 - 3.

Type species: *Notaspis trigona* Michael, 1888.

Remarks: The features listed above may be completed by the fact that the paratectopedial field is always recognizable, the prebothridial ribs and the exobothridial arch may be in parts. The posterobothridial tubercles behind the bothridial lobe are frequently present. Notogastral sigillum absent, frequently the anterior margin of notogaster with a medial elevation or occasionally with a strong hollow.

Subsequently we give revised descriptions of some species.

Suctobelba altvateri Moritz, 1970

Suctobelba altvateri Moritz, 1970a: 152, Abb. 7a-d.

Material examined: Switzerland: VS-5.

Remarks: In the description of this species, Moritz (1970a) did not discuss the features of the ventral and the lateral sides. On the other hand, the dorsal characteristics are readily identified from his description, although the Swiss specimens are somewhat larger (242-292 μm). We observed no striking features on the ventral side. The mental tectum is evenly concave. The anterior part of sternal field is narrow, behind it gradually widens and then narrows again posteriorly. Posterior border of the epimeral region undulate. Discidium nearly triangular. Setae ad_2 arising far from each other, near to the lateral margin of ventral plate; the distance between them longer than setae ad_3 .

Suctobelba atomaria Moritz, 1970

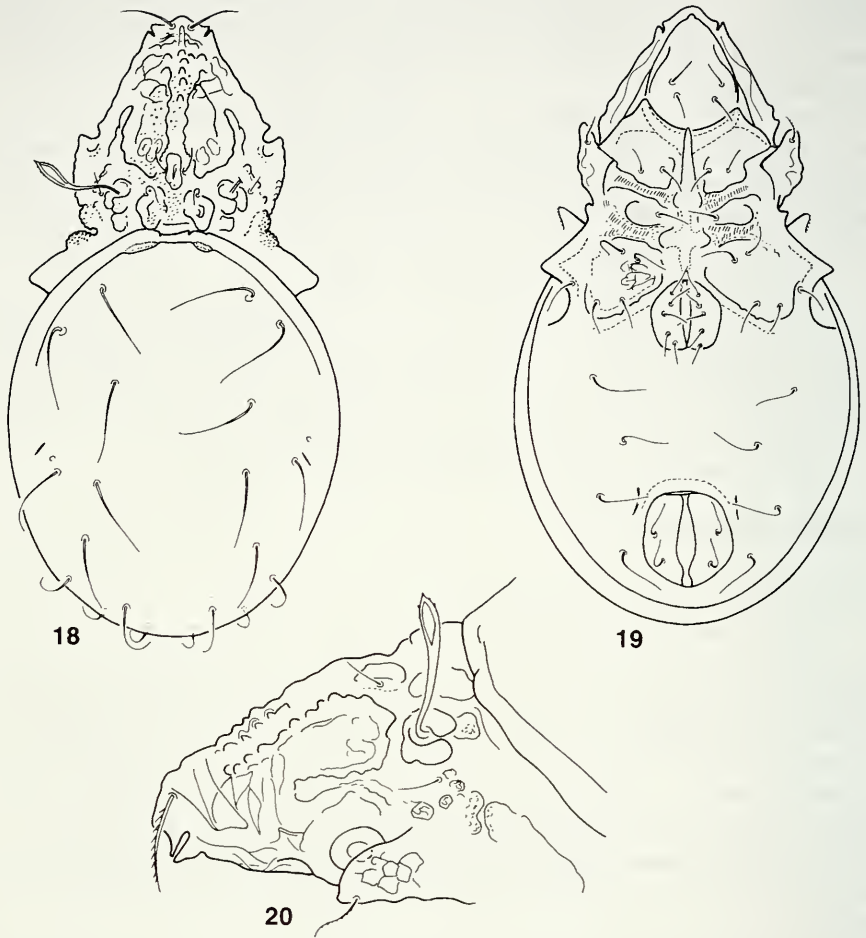
Figs 18-20

Suctobelba atomaria Moritz, 1970a: 162, Abb. 11a-d.

Material examined: Switzerland: BL-1, VS-3, VS-8, GR-9.

Remarks: The specimens from Switzerland can easily be identified from the description and figures of Moritz. In our specimens the polygonal pattern in the tectopedial field is weaker and occasionally the number of medial tubercles is smaller. The head of the sensillus bears a few tiny spicules. Moritz did not describe the lateral side of the podosoma, or the ventral side. Since no illustrations to this species exist, we supply a short redescription as follows.

Lateral part of podosoma: Acetabula I-IV normal, lying at the same level (Fig. 20). Exobothridial and acetabular region well sclerotised, granulated, exobothridial arch composed of larger tubercles. Pedotecta I comparatively large, bearing setae *Ic*; pedotecta II-III reduced; discidium with a sharp, triangular posterior corner.



Figs 18-20

Suctobelba atomaria Moritz, 1970 – 18: body in dorsal view, 19: body in ventral view, 20: podosoma in lateral view.

Ventral parts: Median part of mental tectum protruding anteriorly. Epimeral borders and apodemes normally developed, a wide sternal field present medially between the epimeral plates. Epimeral surface with weak irregular polygonal pattern. Epimera IV normal in shape, with a serrated posterior border (Fig. 19). Epimeral setal formula: 3 – 1 – 3 – 3. Setae *Ic* located laterally on the surface of pedotecta I. Setae *4c* arising on basal part of discidium. Epimeral setae of normal size, setae *Ic* and *3c* clearly ciliate. Aggenital setae very far from each other, among the adanal setae *ad*₁

in paraanal, setae ad_3 in preanal position. Lyrifissures iad long and situated comparatively far from the anal opening.

Legs: Form and chaetotaxy of legs I and IV typical for the family.

Suctobelba consimilis sp. n.

Figs 21-23

Material examined: Switzerland: Holotype: Ticino: TI-11; 5 paratypes: from the same sample. Holotype and 3 paratypes: MHNG; 2 paratypes (1644-PO-99): HHNM.

Diagnosis: Rostrum triangular, rostral setae simple. Rostral teeth large, one pair of deep incisions present. Prodorsal surface granulated, without larger tubercles medially. Tectopedial fields large, with serrate median margins. Dorsosejugal margin with one pair of short longitudinal laths. Ten pairs of pectinate notogastral setae. Anogenital setal formula: 5 - 1 - 2 - 3. Setae ad_1 in paraanal position. Lyrifissures iad far removed from the anal aperture.

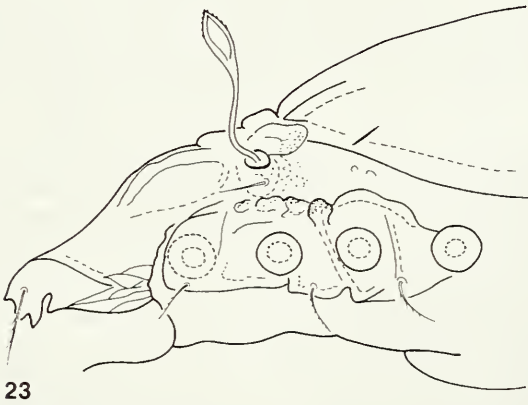
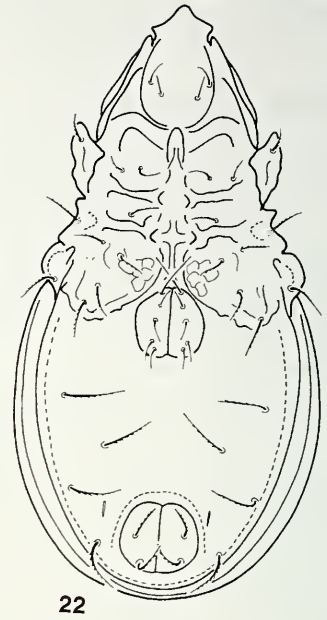
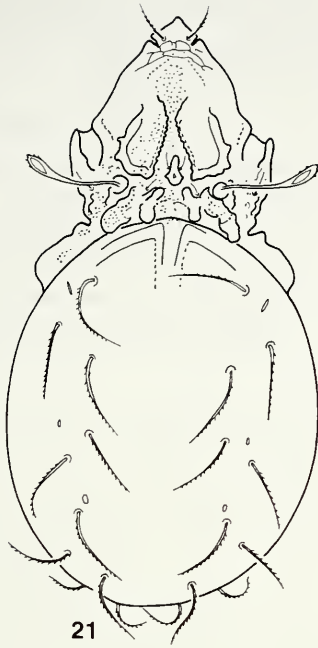
Measurements: Length of body: 196-207 μm , width of body: 102-112 μm .

Prodorsum: Rostrum conspicuously protruding anteriorly, nasiform in dorsal view. This region divided by a pair of deep incisions, separating a pair of large, rounded rostral teeth (Fig. 21). Their apical part bearing straight, ciliate rostral setae. Nearly the whole prodorsal surface evenly granulated, without larger tubercles. A weak polygonal pattern visible behind the rostrum. Shape of tectopedial fields conspicuous, they are comparatively small, located in the posterior part of the prodorsum. Their inner margin distinctly serrate, outer one shorter but much thicker, with 2-3 larger tubercles. Between them an elongated lamellar knob present. A pair of well sclerotised narrow, almost costuliform interbothridial fields present. Lamellar and interlamellar setae fine and short. Bothridia large, also well sclerotised, with an extremely large, posteriorly rounded basal lobe. Exobothridial arch weak, consisting of some tubercles. Sensillus long (Fig. 23), with lanceolate head bearing some small spicules.

Notogaster: Elongated. Dorsosejugal margin elongated anteriorly, protruding into the interbothridial region. A pair of well sclerotised median teeth continuing backwards as longitudinal laths. Ten pairs of notogastral setae present, eight pairs longer than the remaining ones (p_1, p_2). All setae distinctly ciliate, nearly pectinate.

Lateral part of podosoma: Acetabula I-IV normal, lying at the same level (Fig. 23). Exobothridial and acetabular region well sclerotised, partly granulated, acetabular region well framed medially. Pedotecta I large, bearing setae $1c$. Pedotecta II-III reduced, discidium rounded posteriorly.

Ventral parts: Median part of mental tectum slightly protruding anteriorly. Epimeral borders and apodemes normally developed, a wide sternal field present between the epimeral plates medially. Epimera IV with serrated posterior border (Fig. 22). Epimeral setal formula: 3 - 1 - 3 - 3. Setae $1c$ located laterally, on the surface of pedotecta I. Setae $4c$ arising on basal part of discidium. Epimeral setae of normal size, all setae clearly ciliate. Genital opening much smaller than the anal one. Anogenital setal formula: 5 - 1 - 2 - 3. Anterior pair of genital setae much longer than the others. Position of aggenital setae and lyrifissures characteristic, setae ad_1 arising in paraanal



FIGS 21-23

Suctobelba consimilis sp. n. – 21: body in dorsal view, 22: body in ventral view, 23: podosoma in lateral view.

position, setae ad_2 far from each other, near to the lateral margin of ventral plate, setae ad_3 far anteriorly in preanal position. Lyrifissures iad large, located far from the anal aperture. All setae in this region - except genital ones - similar to the notogastral setae.

Legs: Form and chaetotaxy of legs I and IV typical for the family. Two setae on tarsus IV pennate.

Remarks: The new species is closely related to *S. secta* Moritz, 1970. The ventral side was not described by Moritz (1970b). Nevertheless, the new species is readily distinguishable from *S. secta* by the serrated median margin of the tectopedial field, the elongate median dorsosejugal border of the notogaster (straight in *S. secta*), by the absence of larger median prodorsal tubercles (present in *S. secta*), and by the characteristically pectinate notogastral setae (smooth in *S. secta*).

Derivatio nominis: Named after its relative.

Suctobelba regia Moritz, 1970

Fig. 24

Suctobelba regia Moritz, 1970a: 147, Abb. 5a-d.

Material examined: Switzerland: TI - 11, SG-4.

Remarks: The specimens examined are readily identifiable with the description and figures of Moritz. Here we give an illustration of the ventral side, complemented by some further data: Mental tectum protruding, sternal field behind it being narrow but strongly widening posteriorly. Setae $3a$ and $3b$ arising conspicuously close to each other on weak, round protuberances (Fig. 24). Posterior border of epimeral region undulate. Anogenital setal formula: 5 - 1 - 2 - 3. All genital setae conspicuously long. Position of aggenital setae characteristic, arise very far from each other. Setae ad_1 arising in paraanal, setae ad_3 far anteriorly in preanal position. Lyrifissures iad located anteriorly and slightly transversally from the anal aperture.

Suctobelba sorrentensis Hammer, 1961

Fig. 25

Suctobelba sorrentensis Hammer, 1961: 114, Fig. 1.

Suctobelba sorrentensis: Moritz 1970a: 144, Abb. 4a-e.

Material examined: Switzerland: VS-12.

Remarks: Our specimens are readily identifiable on the basis of Moritz's redescription of Hammer's species. The Swiss specimen clearly shows the same prodorsal sculpture as given in Moritz's (1970a) Fig. 4b.

The ventral side: Not treated by Moritz (1970a), thus, we give an illustration (Fig. 25) of this aspect. Some further complementary remarks are necessary: the middle of the dorsosejugal border of notogaster is narrowed, emitting a characteristic line posteriorly. Also discernible in Hammer's (1961) figure, but there rather resembling a similar feature in *S. secta* Moritz, 1970. Mental tectum protruding, the sternal region in front is conspicuously wide. Epimeral borders without longitudinal ribs. Posterior borders of epimere IV denticulate. Anogenital setal formula: 5 - 1 - 2 - 3. Lyrifissures iad originating at the corner of the anal opening. Setae ad_1 arising in paraanal, setae ad_3 far anteriorly, in preanal position. Most of the ventral setae pilose or roughened.

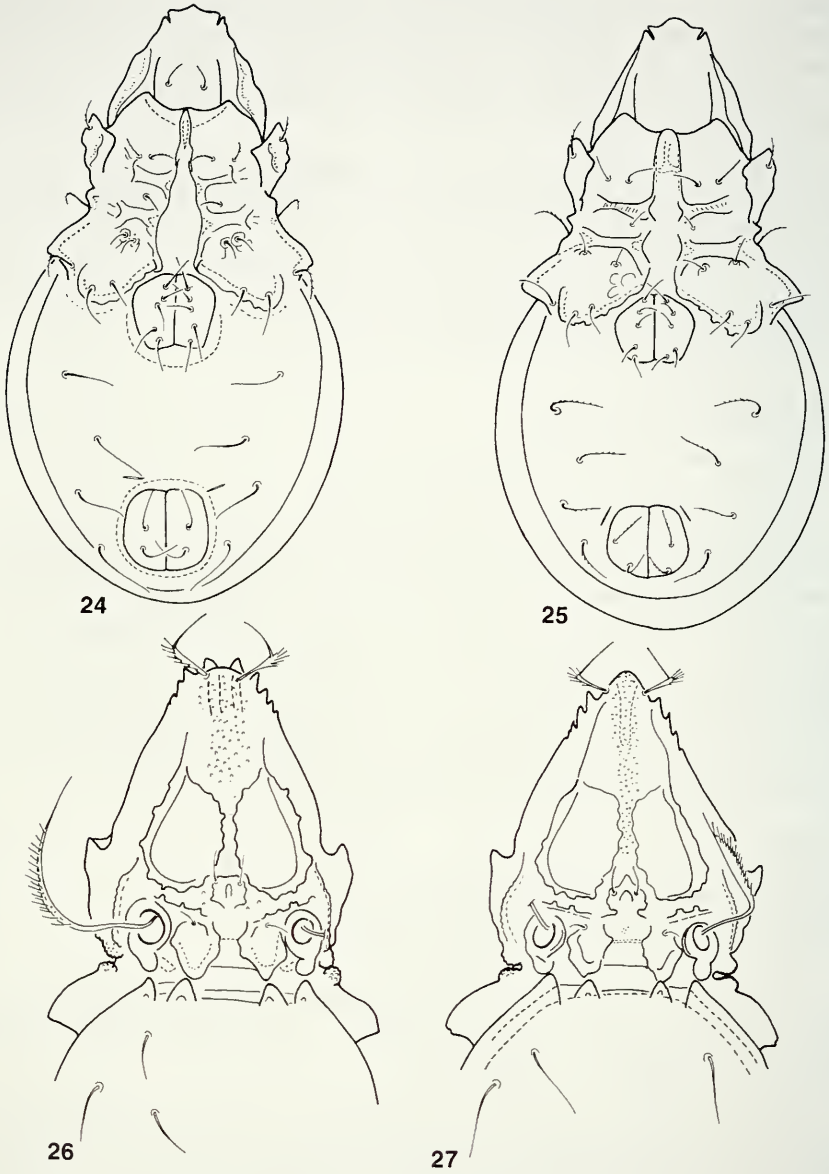


FIG. 24-27

Suctobelba regia Moritz, 1970 – 24: body in ventral view. *Suctobelba sorrentensis* Hammer, 1961 – 25: body in ventral view. *Suctobelbella baloghi* (Forsslund, 1958) – 26: prodorsum in dorsal view. *Suctobelbella forsslundi* (Strenzke, 1951). – 27: prodorsum in dorsal view.

Measurements: Length of the body: 189 µm, width of the body: 100 µm.

The genus *Suctobelbella* Jacot, 1937

Suctobelbella Jacot, 1937: 361.

The latest diagnosis has been given by Moritz (1970a). We feel that some complementary remarks are pertinent.

Diagnosis: Rostrum indented, rostral teeth followed by several accessory teeth. Basal part of rostral setae heavily ciliate, their ends geniculate, smooth. Tectopedial field, prebothridial ribs, interbothridial field and exobothridial arch well developed. Lamellar knob undivided. Two pairs of notogastral condyles present. Nine pairs of notogastral setae. Anogenital setal formula: 6 - 1 - 2 - 3.

Type species: *Suctobelbella serratiostrum* Jacot, 1937.

Remarks: These complementary features suggests that within the genus two groups may be distinguished. In the first one the rostrum is elongate, nasiform, while in the second the rostrum is broad and concave medially. Notogastral sigillum may occasionally be discernible.

Suctobelbella baloghi (Forsslund, 1958)

Figs 26-27

Suctobelba baloghi Forsslund, 1958: 85, Abb. 17a-c.

Suctobelbella baloghi: Moritz 1971: 94, Abb. 4c,7a-d.

Material examined: Switzerland: GR-10; SG-4; TI-11; VS-19.

Remarks: A comparatively rare species, which is difficult to separate from its allies (*nasalis*-group). It is more than certain that the literature data of *S. forsslundi* (Strenzke, 1950) and *S. baloghi* are badly confused. Both species were collected in Switzerland, thus figures were made (Figs 26-27) to show some features. The two species may be distinguished by the median condyles of the notogaster (much smaller in *forsslundi*) and, furthermore, by the lengths of notogastral setae (shorter in *baloghi*), by the granulation of rostral part (rather fine in *forsslundi*) and by the thickness of the sensillus (narrower in *baloghi*).

Suctobelbella besucheti sp. n.

Figs 28-30

Material examined: Switzerland: Holotype: St. Gall: SG-4; 2 paratypes: from the same sample; 1 paratype: the Grisons: GR-10; 1 paratype: Valais: VS-19. Holotype and 2 paratypes: MHNG, 2 paratypes (1645-PO-99:) HNHM.

Diagnosis: Rostral apex nasiform. Five lateral teeth present, separated by wide incisions. A pair of conspicuous oval formations visible in front of the tectopedial fields. Sensillus setiform, with very long cilia. Median notogastral condyles much smaller than lateral ones. 9 pairs of simple notogastral setae. Notogastral sigillum present. Posterior border of epimeral region simple, without serrate margin. Anogenital setal formula: 6 - 1 - 2 - 3.

Measurements: Length of body: 193-206 µm, width of body: 94-102 µm.

Prodorsum: Rostral region strongly divided by long and/or wide, mostly deep incisions (Fig. 28), separating 5 pairs of well developed, sharply pointed teeth. Rostral apex nasiform, rounded, distinctly protruding anteriorly, bearing geniculate rostral setae. Some of the lateral cilia of the basal stock being conspicuously long and strong. Rostral elevation and rostral ribs clearly discernible behind the rostrum. Rostrum covered by larger granules, median and basal part of the prodorsal surface - except for the surface of the tectopedial fields and the exobothridial region - by small granules. Tectopedial fields wide and large, located medially, their margins serrate, their inner surface smooth. Between them, a well developed, nearly triangular lamellar knob present, carrying short lamellar setae. A pair of weakly sclerotised interbothridial fields present, connected with each other, their frame basally and laterally thicker and finer medially. Bothridia large, well sclerotised, each with a very large, rounded basal lobe. Sensillus long (Fig. 30), its median part slightly incrassate, its distal part setiform, covered with long cilia, except for its basal and distal part. Exobothridial region with large granules, exobothridial arch present.

Notogaster: Rounded. Dorsosejugal suture straight, narrowing medially. Dorsosejugal margin with two pairs of condyles, lateral pair much larger than the median ones. An unpaired notogastral sigillum present medially. Nine pairs of simple notogastral setae present, setae *p* of the same size, but shorter than the preceding ones (Fig. 28). All setae smooth.

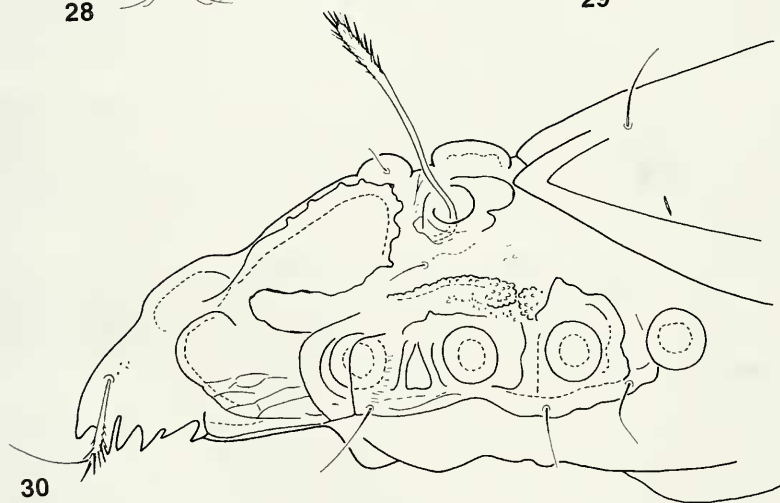
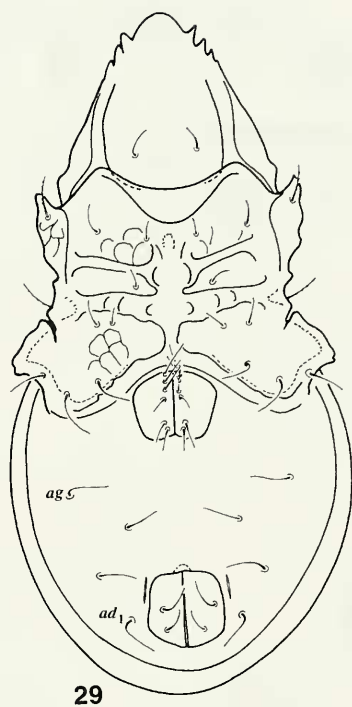
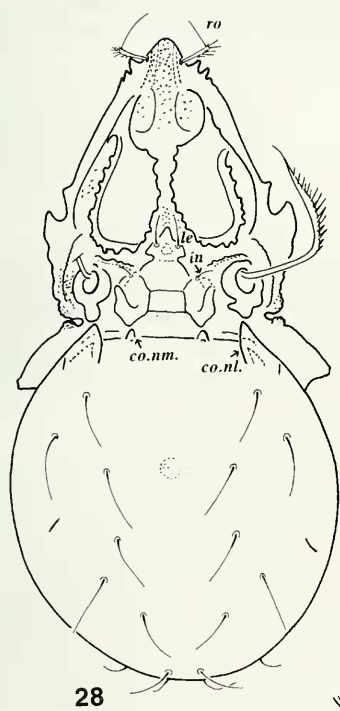
Lateral part of podosoma: Acetabula I-IV normal, lying on the same level (Fig. 30). Exobothridial region well sclerotised, partly granulated. An exobothridial arch clearly discernible, its basal part conspicuously granulated, also a granulate discoidal tubercle exists in the opposing position. Pedotecta I small, pedotecta II-III reduced, discidium also with some tubercles in posteromarginal position.

Ventral parts: Median part of the mental tectum concave. Epimeral borders and apodemes normally developed, a wide sternal field discernible. Posterior border of the epimeral region flatly undulate, epimeral fields with polygonal pattern (Fig. 29). Setae *3a* and *3b* arising near to each other, all setae simple. Genital opening slightly larger than the anal one. Anogenital setal formula: 6 - 1 - 2 - 3. Anterior pairs of genital setae longer than the others. Setae *ad*₁ and lyrifissures *iad* in paraanal position. All setae in this region smooth.

Chelicera and palps: conspicuously narrow and long. Palps setal formula 2 - 0 - 1 - 6.

Legs: Form and chaetotaxy of legs I and IV typical for the family.

Remarks: The new species belongs to the *nasalis*-species group. It is well characterised by the structure of the rostral region, especially the oval formation behind the rostrum. On the basis of the presence of 5 pairs of rostral teeth we consider *S. besucheti* sp. n. to be nearest to *S. forsslundi* (Strenzke, 1950) and *S. baloghi* (Forsslund, 1941). *S. besucheti* sp. n. is distinguished from the other two species by: the conspicuously small median notogastral condyles (much larger in *forsslundi* and *baloghi*) and the distinctly serrate median border of the tectopedial fields (sparsely serrate in *forsslundi* and *baloghi*).



FIGS 28-30

Suctobelbella besucheti sp. n. – 28: body in dorsal view, 29: body in ventral view, 30: podosoma in lateral view.

Derivatio nominis: We dedicate the new species to Dr. C. Besuchet (Museum d'histoire naturelle, Geneva), the renown coleopterologist and the collector of this species.

Suctobelbella duplex (Strenzke, 1950)

Figs 31-33

Suctobelba duplex Strenzke, 1950: 342.

Suctobelba duplex: Strenzke 1951: 153, Abb. 8-9.

Material examined: Switzerland: TI-5.

Remarks: Since its description the species has also been recorded from the Caucasus (Krivolutskij in Giljarov, 1975), but this reference has to be confirmed. In his original, and later in his complementary descriptions, Strenzke gave only partial figures and brief notes. Therefore, we here provide supplementary remarks and more detailed figures (Figs 31-33).

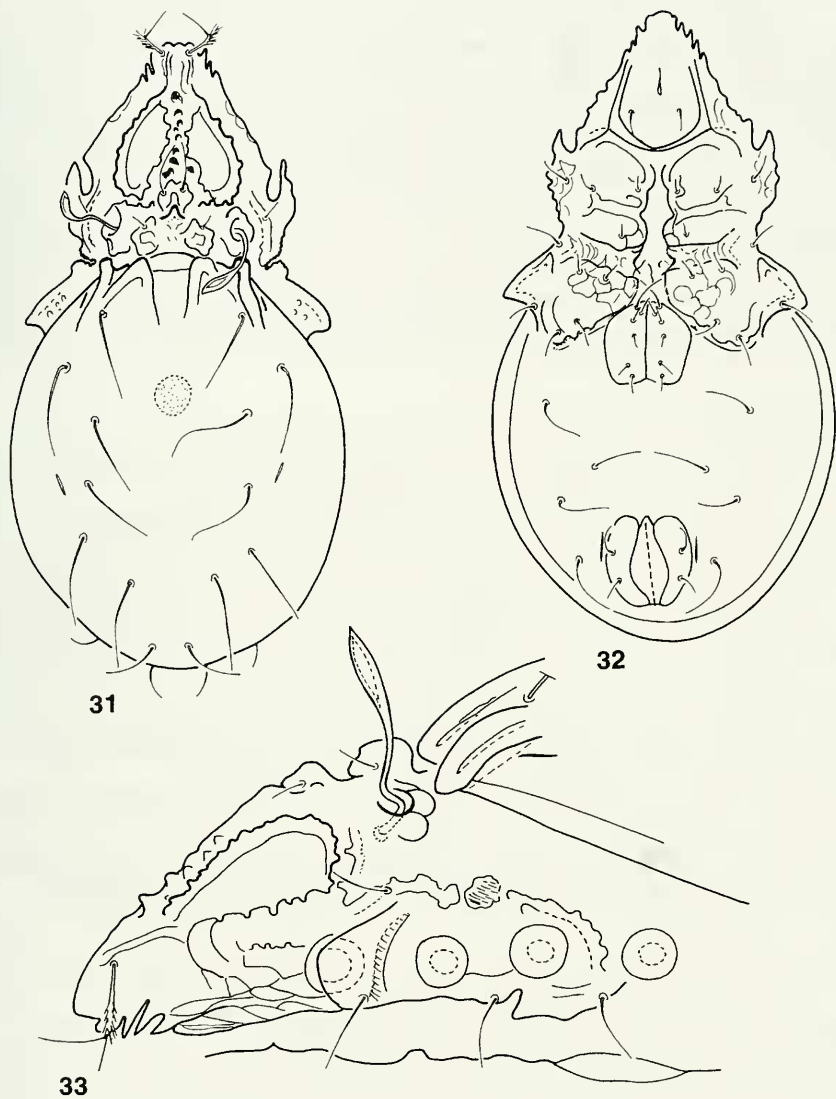
Measurements: length of body: 250 μm , width of body: 132 μm .

Prodorsum: Rostral region strongly divided. Rostral teeth wide, three pairs of well developed, mostly sharply pointed accessory teeth present. Median rostral apex rounded. Rostral elevation conspicuous, bearing the geniculate rostral setae. Some of the basal lateral cilia conspicuously long and strong. Tectopedial fields wide and large, their margins serrate, their surface smooth on the inside. Between them 7-8 large tubercles and a well developed, nearly quadrangular lamellar knob present bearing long lamellar setae. A pair of well sclerotised interbothridial fields present, their frame thick. They are connected with each other. Bothridia large, well sclerotised, with small, rounded basal lobes. Sensillus lanceolate, smooth. Exobothridial region with tubercles, exobothridial arch present.

Notogaster: Rounded. Dorsosejugal suture convex, narrowing medially. Dorsosejugal margin with two pairs of large and blunt condyles connected with each other. An unpaired large notogastral sigillum present medially. Nine pairs of long and simple notogastral setae present, setae *p* of the same size, but shorter than the preceding ones (Fig. 31). All setae smooth.

Lateral part of podosoma: Acetabula I-IV normal, lying on the same level (Fig. 33). Lateroprodorsal pattern polygonate, clearly visible. Exobothridial region well sclerotised, partly granulated. An exobothridial arch clearly discernible, in opposition to a granulate discoidal tubercle. Pedotecta I rounded anteriorly, pedotecta II-III reduced. discidium and custodium well developed, convex laterally.

Ventral parts: Median part of mental tectum concave. Epimeral borders and apodemes (except the sternal apodeme) normally developed, a wide sternal field visible. Posterior border of the epimeral region flatly undulate, epimeral fields with a polygonal pattern (Fig. 32). Insertion of some setae (e.g. *1a*, *2a*, *3a*, *3b*) with annular basal elevation. Setae *3a* and *3b* arising near to each other; all setae simple. Anogenital setal formula (6 - 1 - 2 - 3) typical. Anterior pair of genital setae longer than the others. Setae *ad*₁ and lyrifissures *iad* in paraanal position, setae *ad*₂ and *ad*₃ arising conspicuously far anteriorly, both in preanal position. All setae in this region mostly smooth.



FIGS 31-33

Suctobelbella duplex (Strenzke, 1950) – 31: body in dorsal view, 32: body in ventral view 33: podosoma in lateral view.

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